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PATTERN OF TUBAL PATHOLOGY IN INFERTILE WOMEN ON HYSTEROSALPINGOGRAPHY IN ILORIN, NIGERIA

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Abstract
Background/Purpose: The aim of the research was to describe the pattern of tubal pathologies on HSG in patients with infertility.
Method: A prospective descriptive study of 120 HSG's of infertile women was conducted over a 1-year period from January 2000 to December 2000.
Results: Primary infertility was 20% and secondary infertility was 80%. Hydrosalphinges was the most frequent abnormality in patients with infertility involving 28 patients (23.3%).
Conclusion: The rate of hydrosalphinges seen in both primary and secondary infertility suggests a high rate of pelvic inflammatory disease in our environment.

Key words: Infertility, hysterosalpingography, tubal pathology, hydrosalpinx

Introduction

Hysterosalpingography (HSG) is an imaging modality that utilizes contrast media and radiographic techniques to visualize the uterine cavity and lumen of the fallopian tubes. Infertility is hard to assess accurately, however, several studies have reported between 5 – 15% in developed countries[1]. In tropical Africa infertility rate is between 10%-20%, although prevalence rates of up to 30% and even 50% have been reported in the Congo. [2]

Infertility is defined as the inability of a couple to achieve conception after twelve months, or more of unprotected coitus of average frequency. A major cause of infertility in sub-Saharan Africa is Pelvic Inflammatory disease (PID), usually due to Neisseria gonorrhea. Even with treatment, bilateral tubal occlusion was noted in 20% of cases in one series done in Kenya. [2] It has been estimated that PID – related tubal adhesions, causes 30 – 50 % of all cases of female infertility. Although some authors have documented the radiological patterns of diseases on HSG as seen in Nigerian women.[4 - 8] A revisit is of importance because of the rising cases of Pelvic Inflammatory Diseases, and recent appearances of resistant strains of Neisseria gonorrhoea. [8]

Materials and Methods

The study was carried out at the University of Ilorin Teaching Hospital (UITH), which is situated in Ilorin, the capital city of Kwara State. It was a 12 months prospective study from January 2000 to December 2000 of patients attending the outpatient infertility clinics of the University of Ilorin Teaching Hospital (UITH). All patients were referred to the Radiology Department of UITH for hysterosalpingography. Hysterosalpingography was done between day 7 and 10 of the menstrual cycle using standard procedure.

Women of childbearing age with infertility excluded from the study are those with acute infection of the vagina or cervix because of the danger of dissemination of infection and in active uterine or vaginal bleeding. Data was analyzed using SPSS version 10 software for statistical analysis.

Results

The respondents interviewed in the study were one hundred and twenty women with infertility. Their ages ranged between 19 years and 39 years, with a mean of 29.8years. Primary infertility was 20%, whereas secondary infertility was 80%.

The duration of infertility ranges from 1 year to 18 years with a mean duration of 4.24 years. Most of the patients presented in the first 6 years accounting for 90% of cases.

Bilateral normal tubes characterized by normal size tubes with free intraperitoneal spillage were present in 72 patients (60%). Hydrosalphinges either bilateral (fig 1) or unilateral was the most common tubal abnormality; it was present in 28 patients (23.3%). Bilateral hydrosalphinges is noted in 14 patients (11.7%) (Table 1).

Unilateral hydrosalpinx in either the right or left tube was also noted in 14 patients (11.7%). However, right unilateral hydrosalpinx was more frequent occurring in 9 patients, 7.5%. Bilateral tubal blockage was observed in 9 patients, 7.5% (fig 2). Unilateral tubal blockage occurring with either a normal or hydrosalpinx tube is observed in 16 patients, 13.33%.

Table 1: Pattern of tubal pathology as seen on hysterosalpingography

Pathology	No.	%
Both normal	72	60
Right normal tube, Left blocked	9	7.5
Right normal, Left hydrosalpinx	4	3.3
Left normal tube, Right blocked	2	1.7
Left normal tube, Right hydrosalpinx	5	4.2
Bilateral tubal blockage	9	7.5
Bilateral hydrosalpinx	14	11.7
Left hydrosalphinx+ right tubal blockage	1	0.8
Right hydrosalpinx +left tubal blockage	4	3.3
Total	120	100.0

Discussion

Infertility is a major public health problem in Africa, since childlessness is seen as a major personal tragedy and can result in marital instability and suicidal tendencies. [9]

Primary infertility comprises 20% and secondary infertility constitutes 80%. Earlier researchers also obtained higher rates of secondary infertility comparable to the results of this study. [2,4,7] Belsey suggested that a higher rate of secondary infertility, compared to primary infertility, could be used as a crude indicator of the possible effects of post abortal and post partum infection. [2]

Hydrosalpinx is defined as dilatation of the ampullary segment of the fallopian tube with associated thinning of adherent fimbriae and destruction of the mucosa. Bilateral or unilateral hydrosalpinx occurred in 28 patients, (23.3%). This value is lower than that of a similar study in Ilorin done about a decade ago by Adetiloye, in that study hydrosalpinx was noted in 44.5% of the patients. [4] The lower value may most probably be secondary to the improvement in the health care delivery system over the years. However, hydrosalphinges is the most common tubal pathology reported in most studies, including this survey. [11 - 13]

In evaluating the pattern of tubal anomalies, bilateral hydrosalpinx was found in 14 patients, 11.7%. Unilateral hydrosalpinx was commoner on the right side constituting 9 cases (7.5%). This was in agreement with an earlier observation. [4] Most researchers are of the opinion that the presence of the appendix on the right side may predispose to increase in inflammatory disease on the right side with resultant hydrosalphinx. [4] Hydrosalpinx can be diagnosed on the early films, but it is best seen on the film taken 30 minutes after the completion of the procedure, as the delay allows for more accumulation of the contrast media within the blocked tubes. The high incidence of hydrosalpinx, in both primary and secondary infertility in this series may be a reflection of the prevalence rate of pelvic inflammatory diseases in our environment.

Bilateral blocked tubes were noted in 9 patients. However, it may be difficult to differentiate tubal obstruction from bilateral cornual spasm and those due to technical reasons, such as under filling. Horwitz *et al* described cornual spasm radiologically, as spasm characterized by rounded smooth cornual margin whereas cornual occlusion was characterized by pointed or irregular cornual margin[11]. These radiological features are difficult to evaluate objectively. Laparoscopy and dye tests have proved superior to HSG in differentiating cornual spasm from cornual occlusion. [5,6]

A newly described radiological technique; selective ostial salpingography can be used to differentiate true mechanical obstruction from spasm without subjecting the patient to laparoscopy. [13,14] In this technique platinum tipped guide wire and 3-F Teflon catheter were used to recanalise obstructed fallopian tubes.

Hysterosalpingo- contrast sonography is a relatively new modality of evaluating tubal patency. The study utilizes a special contrast agent [e.g. Echovist 2000], which is injected through a Foley's catheter placed at the internal Os. The anechoic interface provided by the fluid allows visualization of the lumen of the fallopian tubes. The results are comparable with that of HSG, and diagnostic accuracy of 86% and 90% have been obtained. [15, 16] The procedure is less painful and is also radiation free.

The complications of HSG, which have been reported, include infection, urticaria and syncope. Others are hemorrhage and shock, pulmonary and retinal embolus formation[10, 17,18.] None of these complications occurred in this study, apart from mild – moderate procedural pain. Despite new innovations and recent advances in imaging modalities, hysterosalpingography remain important for visualizing the fallopian tubes.

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